WHAT IS CLAIMED IS:

1. An isolated and purified polynucleotide comprising a nucleic acid sequence encoding a WWOX polypeptide.

2. The polynucleotide of claim 1, comprising a nucleic acid sequence encoding SEQ ID NO:2.

3. The polynucleotide of claim 1, comprising a nucleic acid sequence encoding SEQ ID NO:31.

4. The polynucleotide of claim 1, comprising a nucleic acid sequence encoding SEQ ID NO:33.

5. The polynucleotide of claim 2, comprising SEQ ID NO:1.

6. The polynucleotide of claim 2, comprising SEQ ID NO:30.

7. The polynucleotide of claim 2, comprising SEQ ID NO:32.

8. The polynucleotide of claim 1, comprising a nucleic acid sequence encoding at least 50 contiguous amino acid residues of SEQ ID NO:2.

9. The polynucleotide of claim 8, comprising a nucleic acid sequence encoding at least 150 contiguous amino acid residues of SEQ ID NO:2.

10. The polynucleotide of claim 1, comprising at least 1.5 contiguous kilobases of SEQ ID NO:1.

11. An expression vector comprising a nucleic acid sequence encoding a WWOX polypeptide.

12. The expression vector of claim 11, wherein the nucleic acid sequence encodes SEQ ID NO:2.

13. The expression vector of claim 11, wherein the nucleic acid sequence encodes SEQ ID NO:31.

14. The expression vector of claim 11, wherein the nucleic acid sequence encodes SEQ ID NO:33.

15. The expression vector of claim 11, wherein the nucleic acid sequence comprises SEQ ID NO:1.

16. The expression vector of claim 11, wherein the nucleic acid sequence comprises SEQ ID NO:30.

17. The expression vector of claim 11, wherein the nucleic acid sequence comprises SEQ ID NO:32.

18. The expression vector of claim 11, wherein the nucleic acid sequence comprises at least 1.5 contiguous kilobases of SEQ ID NO:1.

19. The expression vector of claim 18, wherein the nucleic acid sequence encodes at least 50 contiguous amino acids of SEQ ID NO:2.

20. The expression vector of claim 11, wherein the nucleic acid sequence further comprises a promoter operably linked to the WWOX-encoding nucleic acid sequence.

21. The expression vector of claim 20, wherein the promoter is heterologous.

22. The expression vector of claim 20, wherein the promoter is a constitutive promoter, a tissue-specific promoter, an inducible promoter, or a noninducible promoter.

23. The expression vector of claim 11, wherein the expression vector is a viral vector.

24. The expression vector of claim 23, wherein the viral vector is a vaccinia virus, adenovirus, herpesvirus, retrovirus, cytomegalovirus, or adeno-associated virus.

25. A recombinant host cell comprising a nucleic acid sequence encoding a WWOX polypeptide.

26. The recombinant host cell of claim 25, wherein the polypeptide comprises SEQ ID NO:2.

27. The recombinant host cell of claim 25, wherein the polypeptide comprises SEQ ID NO:31.

28. The recombinant host cell of claim 25, wherein the polypeptide comprises SEQ ID NO:33.

29. The recombinant host cell of claim 25, wherein the nucleic acid sequence comprises SEQ ID NO:1.

30. The recombinant host cell of claim 25, wherein the nucleic acid sequence comprises SEQ ID NO:30.

31. The recombinant host cell of claim 25, wherein the nucleic acid sequence comprises SEQ ID NO:32.

32. A method of preparing recombinant WWOX comprising:

(a) transfecting a cell with a polynucleotide comprising a nucleic acid sequence encoding a WWOX polypeptide to produce a transformed host cell; and

(b) maintaining the transformed host cell under biological conditions sufficient for expression of the WWOX polypeptide in the host cell.

33. The method of claim 32, wherein the nucleic acid sequence encodes SEQ ID NO:2.

34. The method of claim 32, wherein the nucleic acid sequence encodes SEQ ID NO:31.

35. The method of claim 32, wherein the nucleic acid sequence encodes SEQ ID NO:33.

36. The method of claim 32, wherein the nucleic acid sequence comprises SEQ ID NO:1.

37. The method of claim 32, wherein the nucleic acid sequence comprises SEQ ID NO:30.

38. The method of claim 32, wherein the nucleic acid sequence comprises SEQ ID NO:32.

39. The method of claim 32, wherein the polynucleotide is comprised in a vector.

40. A method of treating a pre-cancer or cancer cell comprising providing to the cell an amount of a WWOX polypeptide effective to induce apoptosis in the cell.

41. The method of claim 40, wherein the WWOX polypeptide is provided to the cell by administering an expression vector comprising a polynucleotide encoding a WWOX polypeptide under the transcriptional control of a promoter.

42. The method of claim 40, wherein the cell is a bladder, blood, bone, bone marrow, brain, breast, central nervous system, colon, esophagus, gastrointestine, head, kidney, liver, lung, nasopharynx, neck, ovary, prostate, skin, stomach, or uterus cell.

43. The method of claim 40, wherein the expression vector comprises a viral vector.

44. A method of treating a subject having a hyperproliferative condition comprising contacting a cell within the subject with an expression vector comprising a polynucleotide encoding an WWOX polypeptide under the transcriptional control of a promoter, wherein expression of the WWOX polypeptide confers a therapeutic benefit on the subject.

45. The method of claim 44, wherein the cell is a cancer or pre-cancer cell.

46. The method of claim 44, wherein the cell is involved with restenosis, primary psoriasis, angiogenesis, rheumatoid arthritis, inflammatory bowel disease, psoriasis, eczema, secondary cataracts, or bronchial dysplasia.

47. The method of claim 45, wherein the cancer or pre-cancer cell is selected from a group consisting of a bladder, blood, bone, bone marrow, brain, breast, colon, esophagus, gastrointestine, head, kidney, liver, lung, nasopharynx, neck, ovary, prostate, skin, stomach, and uterus cell.

48. The method of claim 45, wherein the cancer or pre-cancer cell is derived from or is part of a solid tumor.

49. The method of claim 44, wherein the contacting occurs *in vitro*.

50. The method of claim 44, wherein the contacting occurs *in vivo*.

51. The method of claim 44, wherein the expression vector is delivered endoscopically, intravenously, intralesionally, percutaneously, or subcutaneously.

52. The method of claim 48, wherein the expression vector is delivered by direct injection into the tumor.

53. The method of claim 44, wherein the expression vector comprises a viral vector.

54. The method of claim 53, wherein the viral vector a vaccinia virus, adenovirus, herpesvirus, retrovirus, cytomegalovirus, or adeno-associated virus.

55. The method of claim 44, wherein the contacting is performed at least twice.

56. The method of claim 55, wherein the second contacting follows the first by a period of about one day to one year.

57. The method of claim 48, further comprising contacting the tumor with an anticancer therapy.

58. The method of claim 57, wherein the anticancer treatment is chemotherapy, immunotherapy, surgery, radiotherapy, gene therapy with a second therapeutic polynucleotide other than a polynucleotide encoding the WWOX polypeptide, or other biotherapy.

59. The method of claim 57, wherein the expression vector is contacted with the tumor prior to, at the same time as, or after contacting with the anticancer treatment.

60. The method of claim 44, wherein the endogenous WWOX polypeptide of the cancer cell is mutated.

61. A method for detecting the susceptibility of an individual to a certain cancer comprising;

(i) obtaining DNA from an individual;

(ii) obtaining probes specific to WWOX; and

(ii) identifying a change in the WWOX gene and/or gene products.

62. The method of claim 61, wherein the identifying comprises amplification.

63. The method of claim 62, wherein the probes encode nucleic acid primers.

64. The method of claim 61, wherein the change is a mutation of WWOX.

65. The method of claim 61, wherein the change is a increase in the amount of a WWOX gene product.

66. The method of claim 61, wherein the change is a decrease in the amount of a WWOX gene product.

67. The method of claim 61, wherein the DNA is genomic DNA.

68. The method of claim 67, wherein the genomic DNA is chromosomal DNA.

69. The method of claim 68, wherein the identifying comprises fluorescent *in situ* hybridization.

70. The method of claim 69, wherein the probes encode nucleic acids spanning the WWOX chromosomal locus.

71. The method of claim 70, wherein the probes further comprise a fluorescent detection moiety.

72. The method of claim 61, wherein the cancer is multiple myeloma.

73. The method of claim 61, wherein the cancer is breast cancer.